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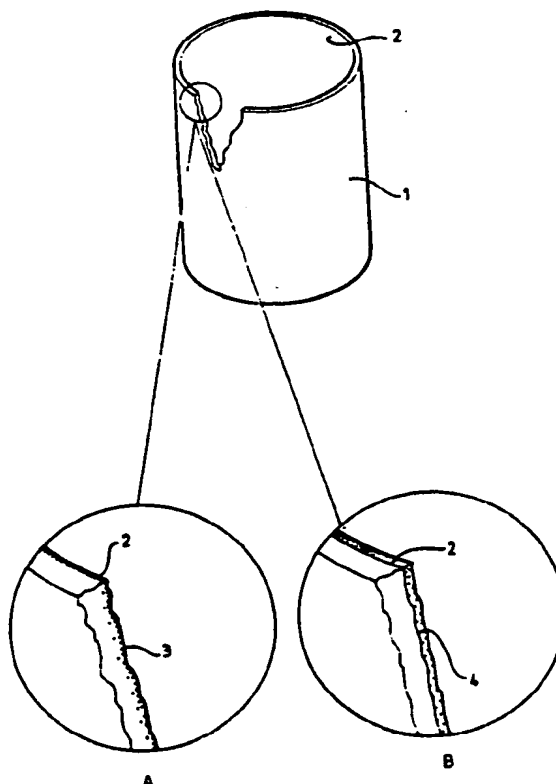
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(54) Moulding concrete articles having a roughened surface

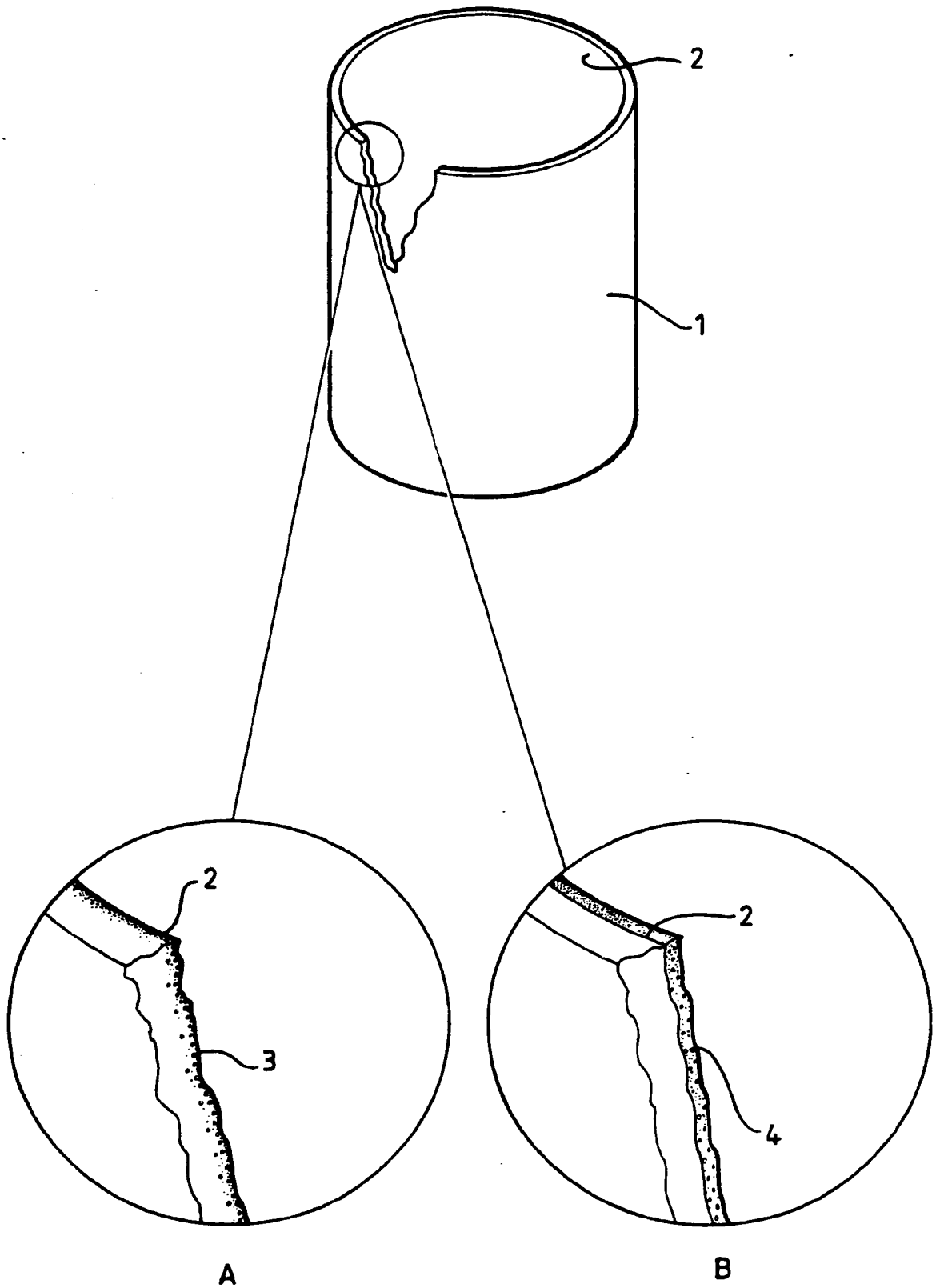
(57) A concrete mould to produce a rough surface on concrete has a mould element (2) e.g. of cardboard to part or all of a surface of which is provided retarding agent (3) as an impregnant, to retard the curing of the concrete. The retarding agent (3) is either applied directly to the mould element (2) to impregnate it (view A) or is in the form of an impregnated liner (4) e.g. of paper secured to the mould element (view B). The retarding agent can be arranged in a pattern, such as circumferential or longitudinal bands around a surface of a cylindrical tube.



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.
The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1990.

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CONCRETE MOULD.

This invention relates to a concrete mould, primarily intended to receive a quantity of concrete for the purpose of casting a concrete structure, such as a column.

An existing concrete mould consists of a cardboard tube, which can be lined with plastics material and which, after a concrete structure has been cast therein and the concrete cured, is normally cut away and disposed of. This provides a very convenient and inexpensive means of casting a structure with either a smooth surface or with decoration moulded therein according to a relief carried by the inner surface of the tube.

It is currently common practice to provide a rough surface on a concrete structure by applying retarding agent to the formwork surface prior to casting the structure in order to retard the curing of the concrete in the region of the surface, enabling a thin surface layer of sand/cement to be washed away after removal of the formwork to expose the concrete aggregate, which then provides the finished appearance. The retarding agent is usually applied to the formwork surface as a liquid, by brush or roller for example, which is at best inconvenient and time consuming on site, but also difficult when the formwork is in the form of an elongate enclosure, such as a tube. The use of a liquid retarding agent is also disadvantageous in that the liquid can be splashed during application with risk to operatives and adjacent articles, and can also be displaced by the concrete during pouring, resulting in an inconsistent surface effect.

An object of the present invention is to provide a concrete mould which enables the aforesaid problems to be alleviated or avoided.

According to the present invention, a concrete mould consists of a mould element of which either at least a portion of a surface thereof or a liner disposed over that surface or surface portion is impregnated with retarding agent.

Preferably, the mould is formed from cardboard and has a lining of impregnated paper disposed over its working surface, the paper being secured to the tube to prevent its displacement relative to the tube during use. Typically the impregnation and/or liner would be applied to the inner surface of the mould.

The invention will now be described, by way of example, with reference to the accompanying single drawing which is a perspective view of one form of the concrete mould of the invention with enlarged fragmentary details illustrating alternative possibilities.

Referring to the drawing, the illustrated mould is in the form of a cylindrical tube 1, typically of cardboard or similar material of sufficient strength to withstand the pressure force of concrete poured therein to cast a column or similar structure. The tube incorporates a retarding agent associated with its internal wall 2 and two possibilities for providing this are shown respectively in the fragmentary views A and B.

In the first example (view A) the internal wall 2 of the tube is itself directly impregnated with the retarding agent 3 to a suitable depth.

The second example (view B) provides a liner 4, as of paper for example, over the internal surface of the tube, the liner being impregnated with the retarding agent and being securely fixed to the tube to ensure that it is not displaced by the concrete during pouring of the latter.

The retarding agent would normally cover the entire internal surface of the tube, but it would be possible to cover only a part or a plurality of parts of the surface in order to provide a desired surface effect on the cast concrete structure. For example, the retarding agent may be arranged in a series of circumferential or longitudinal bands or strips which, in the embodiment of view B may conveniently be achieved by applying strips of impregnated liner in a desired pattern, leaving the remainder of the surface free from retarding agent.

It will be seen that a casting process may readily be performed, using the mould of the invention, in exactly the same way as with a conventional mould without the problems attendant upon applying the retarding agent experienced with conventional practice. After the mould has subsequently been stripped away following curing of the body of the cast concrete, the area or areas of the concrete body which have been in contact with the retarding agent will have a thin uncured surface layer which can be washed off to reveal the aggregate content of the concrete which will then provide the finished surface of the body, either over its whole area or over selected areas to provide a desired effect.

Although the described examples of the invention have employed retarding agent on the inner surface of the mould, it is equally possible to provide these alternatively or additionally on the outer surface,

nabling the mould to be used to cast a hollow or annular body with an aggregate surface effect. The mould of the invention may be of any convenient shape, such as a channel, and the invention may also be applied to flat formwork.

CLAIMS

1. A concrete mould comprising a mould element of which either at least a portion of a surface thereof or a liner disposed over that surface or surface portion is impregnated with retarding agent.
2. A concrete mould as claimed in Claim 1, in which the liner is secured to the mould element surface or surface portion.
3. A concrete mould as claimed in Claim 1 or Claim 2, in which the liner is arranged in a pattern on said surface or surface portion.
4. A concrete mould as claimed in Claim 3, in which the liner is arranged in longitudinal bands or strips.
5. A concrete mould as claimed in Claim 3, in which the mould element is cylindrical and the liner is arranged in circumferential bands or strips.
6. A concrete mould as claimed in Claim 1 or Claim 2, in which the mould element is a cylindrical tube and the liner is on a portion or the whole of the inner and/or outer surface thereof.
7. A concrete mould as claimed in Claim 6, in which the liner is arranged on one or both of said inner and outer surfaces in longitudinal bands or strips.
8. A concrete mould as claimed in Claim 6, in which the liner is arranged on one or both of said inner and outer surfaces in circumferential bands or strips.

9. A concrete mould as claimed in Claim 1, in which the mould element is a cylindrical tube and the retarding agent is applied to the whole of the inner and/or outer surfaces.

10. A concrete mould as claimed in Claim 1, in which the mould element is a cylindrical tube and the retarding agent is applied to the inner and/or outer surfaces in longitudinal and/or circumferential bands or strips.

11. A concrete mould as claimed in any one of the preceding claims, in which the mould element is of cardboard or other suitable material.

12. A concrete mould as claimed in any one of Claims 1 to 7, in which the liner is paper or fabric impregnated with said retarding agent.

13. A concrete mould substantially as hereinbefore described, with reference to, and as shown in view A or view B of the accompanying drawings.